
Remote Monitoring:

How to Increase Security Effectiveness

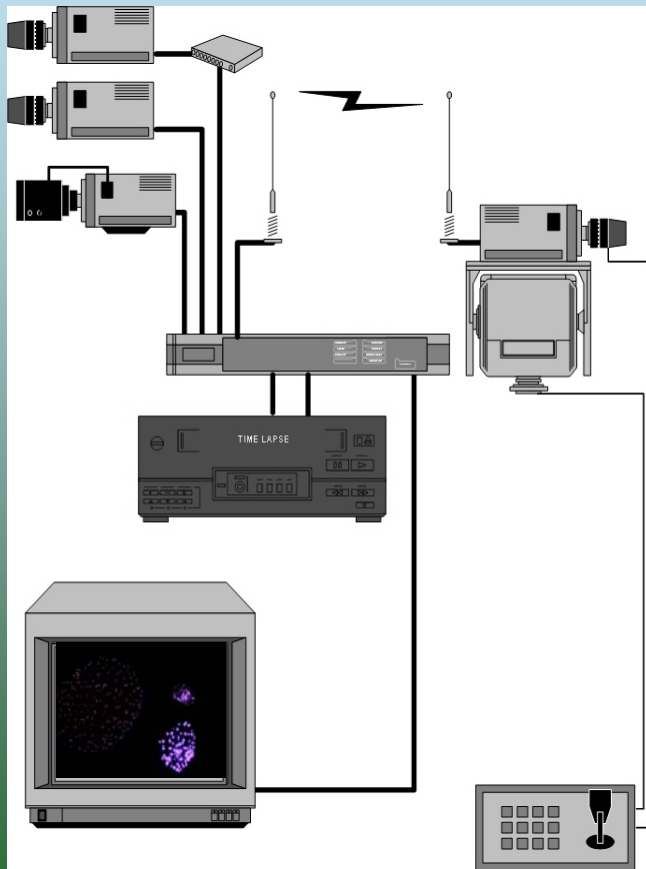
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The Money Years: 1980s



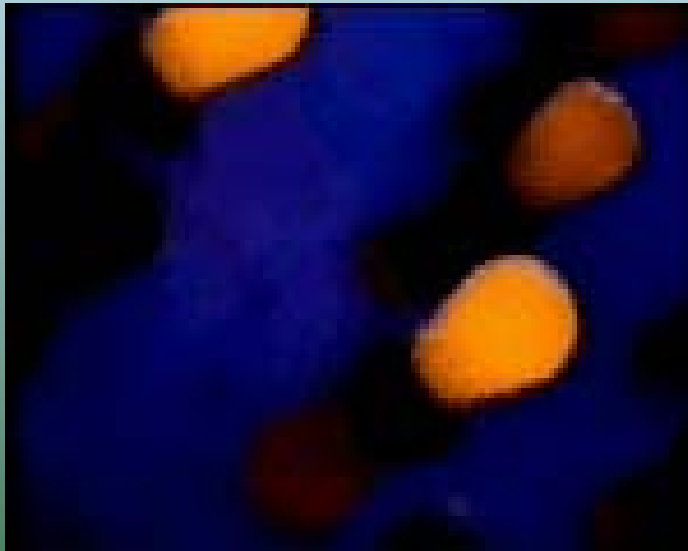
- The average camera system consisted 4 to 8 cameras.
- The average cost of a camera was \$700.00.
- The average customer was retail with heavy influx from industrial.

The Money Years: 1980s

- An average system:
 - Was 8 to 12 Cameras
 - Large when you had 25 or more cameras
 - Huge when you exceeded 64 cameras
- The average person could leave their home, go to the store ... work ... school and be recorded on a CCTV system, an average of once or twice a week.



The Fast Years: 1990s

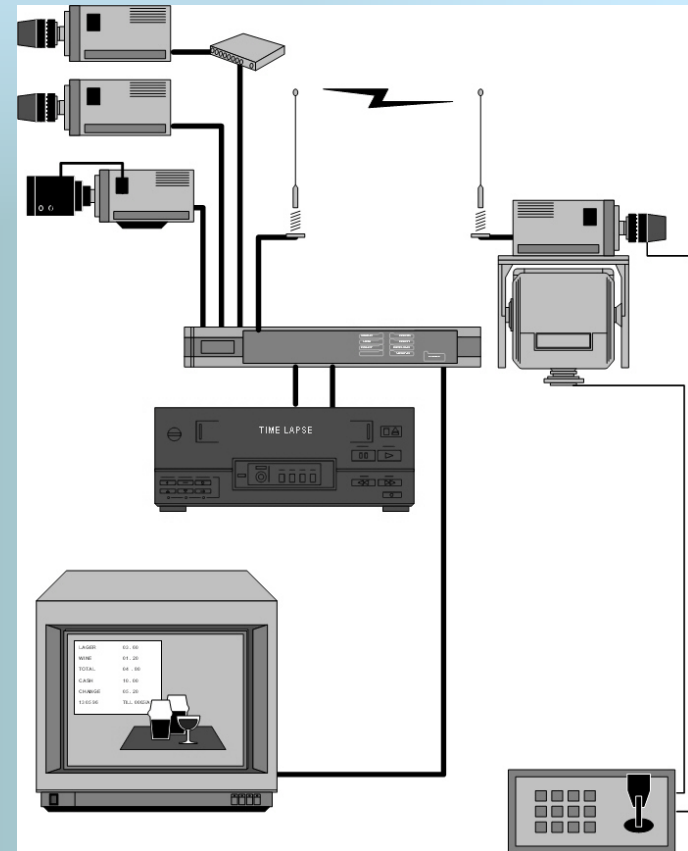


- Cameras improve and the CCD takes the industry away from the tube completely
- Color Cameras try again and take over the industry.
- Automating the system becomes more than a buzz word.

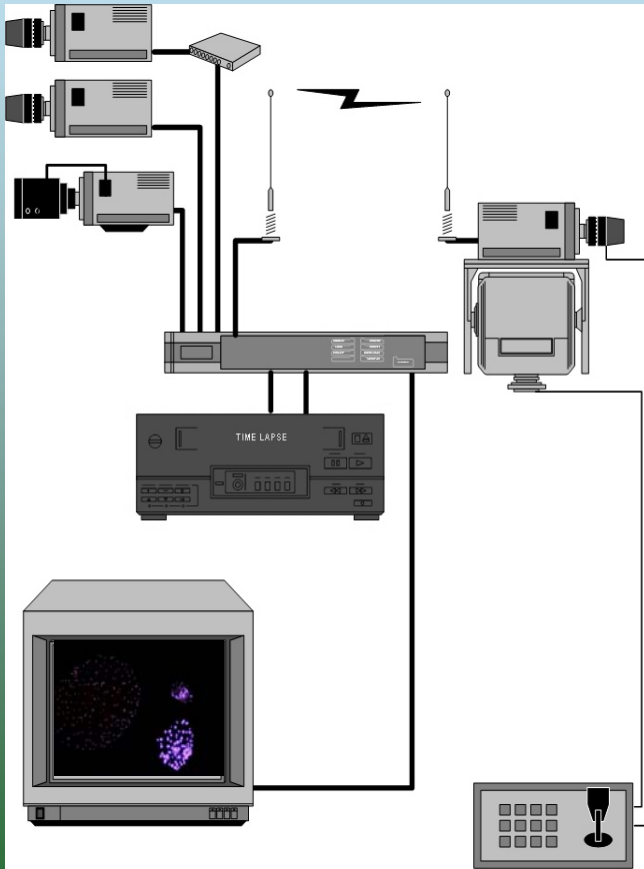


The Fast Years: 1990s

- Camera systems were improving ... toward the end:
 - Digital recorders were introduced and shoved onto the designers back.
 - IP cameras were introduced and ran from by multiples of worried designers
 - Controllers moved into the digital category and became based on a PC.



The Fast Years: 1990s



- The average camera system consisted 4 to 8 cameras.
- The average cost of a camera was \$425.00.
- The average customer was retail with heavy influx from industrial and introductions to Schools.

The Fast Years: 1990s

- An average system:
 - Was 8 to 12 Cameras
 - Large when you had 50 or more cameras
 - Huge when you exceeded 264 cameras
- The average person could leave their home, go to the store ... work ... school and be recorded on a CCTV system, an average of three to five times a day!



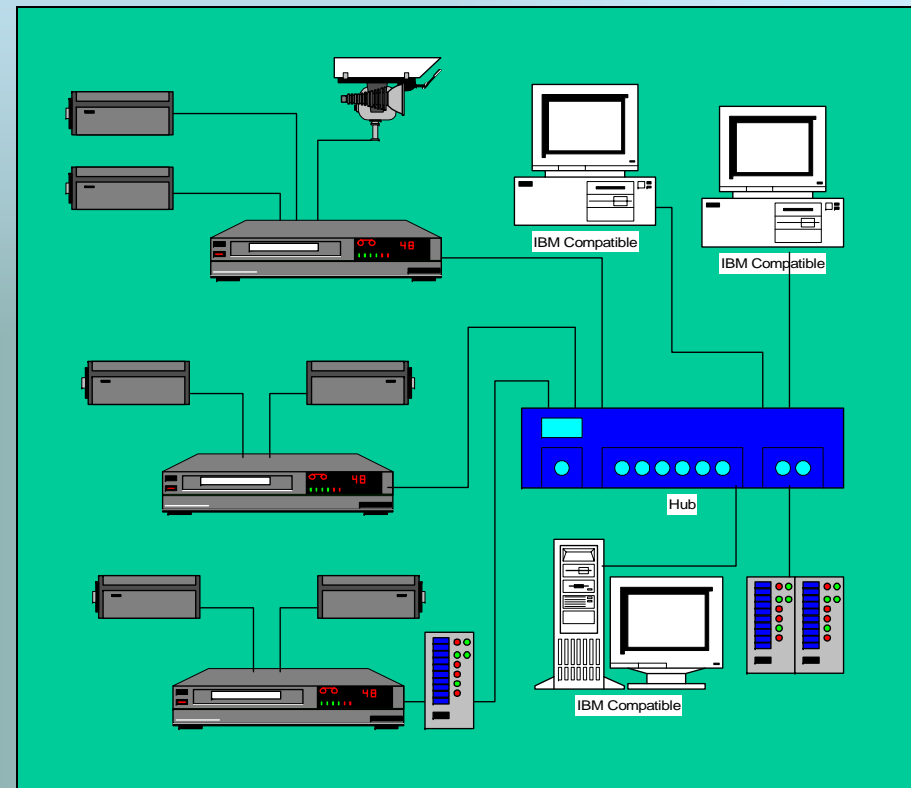
The Digital Years: 2000s

- DVRs are pushed out to the market by everyone with a hard-drive
- Automating the system includes complete interfacing with Card Access and Electronic Security
- IP Cameras move in fast
- Hybrid Digitals are exposed Analog wanna-bees.

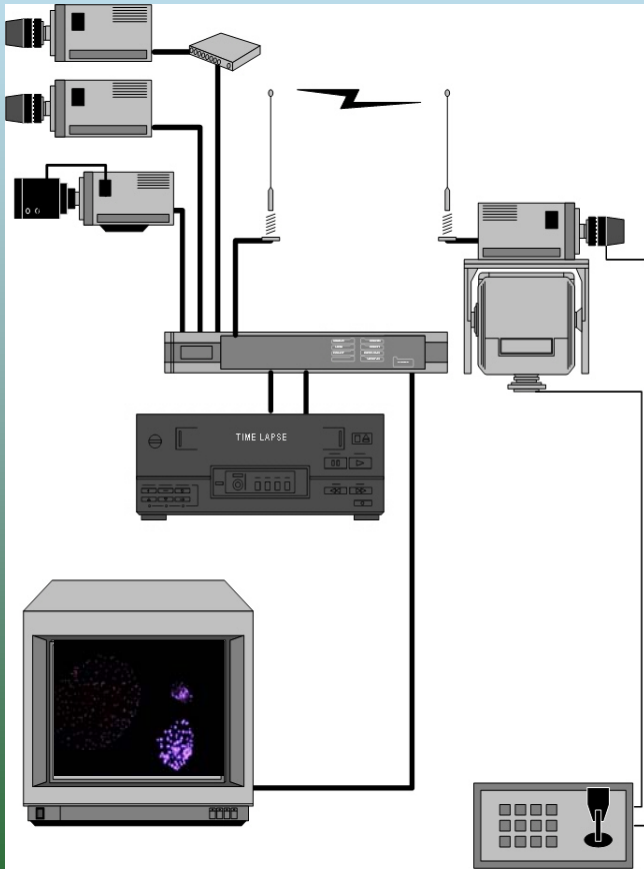


The Digital Years: 2000s

- Camera systems were improving ... in the beginning:
 - Massive hard-drive storage systems are replacing DVRs
 - Video Monitoring Central Stations are popping up everywhere



The Digital Years: 2000s



- The average camera system consisted 4 to 8 cameras.
- The average cost of a camera was \$25.00 to \$7,000.00.
- There is no more average customer ... CCTV is everywhere.

The Digital Years: 2000s

- An average system:
 - Was 8 to 12 Cameras
 - Large when you had 500 or more cameras
 - Huge when you exceeded 2000 cameras
- The average person could leave their home, go to the store ... work ... school and be recorded on a CCTV system, an average of fifteen to twenty five times a day!



The Problems:

- Systems are growing in the number of cameras used at leaps & bounds
 - 10 Years ago:
 - Average system: 4 – 8 cameras
 - Large system: 150 cameras
 - Huge system: 300 + cameras
 - Today:
 - Average system: 8 – 12 cameras
 - Large system: 1,000 + cameras
 - Huge system: 5,000 + cameras



The Problems:

- Time & Fatigue Factor #1:
 - The average IQ person can only watch an average of 30 minutes of continuous video before they lose total perception of what they are looking at:
- Time & Fatigue Factor #2:
 - The average IQ person can only monitor up to 4 scenes effectively ... 1 with complete comprehension



The Problems:

- Ten years ago, we had one or two security personnel watching our small systems via quad splitters, multiple screens, multiplexers with 16 images on a screen, etcetera
- Today, we have the same number of personnel on board watching ten times as much activity on the same number of screens.



The Problems:

- Yesterdays systems were used to store video information pertaining to all activity in an area.
 - The activity was used as an after-the-fact verification of actions and incidents.
- Today's systems are used to store individual files of images pertaining to multiples of uses ... many of which have nothing to do with physical security
 - Today's systems are literally storing ten to fifty times as much visual information as ever before.
- Tomorrow's systems will store another fifty times as much visual information as today's systems are:
 - Tomorrow is on the door step!



The Solutions

- Automation of systems:
 - Take the controls and responses out of the hands of the security personnel as much as possible:
 - Allows for more accurate responses.
 - Allows for more accurate visual information.
 - Allows for fewer persons to handle more system.
 - Allows for more bang for the buck!



The Solutions

Integration of systems:

- Access Control
 - Card swipe activates a POS into the camera recording system storing both the image of the card user and the data from the transaction.
 - Door / Gate activations trigger specific responses to the video system according to hour of day, level of security, and research (after the fact visual) requirements



The Solutions

Integration of systems:

- Burglar / Fire alarms
 - The systems direct output is tied to the camera system to:
 1. Activate any/all cameras in the area of the alarm trigger
 2. Record all data from the panel onto the video image
 3. Record all response data from the security personnel onto the video image



The Solutions

Integration of systems:

- Integration of systems:
 - Radio / telephone / computer communications:
 - Tie in all communications into the video system via POS.
 - All communications stored in concert with the appropriate video sequence to verify, after the fact responses to various situations



The Solutions

Integration of systems:

- Security force:
 - Visual images on screens when something is happening as opposed to full time monitoring
 - Visual instructions interlaced with visual alarm responses on monitors
 - Data responses recorded throughout alarm response as well as after the fact reporting being tied with specific visual files
 - Auto triggering and positioning of images on monitors via secondary systems



The Solutions

Integration of systems:

- General Business:
 - Tie business of minding various building monitoring systems into the visual response system.
 - Heating / Cooling ...
 - Sprinkler / Riser ...
 - Gas Flow / Usage ...
 - Weather / Advance warning Systems.



The Solutions Organization:

- Because of the digital influx into the video market, video systems are fast becoming the master point of archiving cumulative material and information
 - Visual images
 - Access information
 - Alarm information
 - Data processing
 - Communication files



The Solutions Organization:

- Video filing systems must be established early to insure an accurate and searchable data base
 - Files should be tied together via:
 - Time / date stamps
 - Type of information
 - Locations
 - Style of information



The Solutions Organization:



The Tools:

- There are a vast number of various visual tools to help with the automation of visual systems. The key is;
 - to be aware of what is available;
 - to be aware of where they fit;
 - to be aware of the pitfalls or limitations
 - to be aware of the variations available
 - to study more than one approach



The Tools:

- Tools will fall into three categories:
 1. Alarm triggers
 2. Visual triggers
 3. Visual assessment
- The key is to remain:
 - Creative
 - Realistic
 - Objective
 - Open to suggestions / new ideas



The Tools:

Alarm triggers:

- Alarm triggers are those devices that are used for various trigger functions normally credited to alarm systems:
 - Specific point detection
 - Access Control
 - Door / gate contacts
 - Glass break devices
 - Panic Buttons
 - Area or motion detection
 - Microwave
 - Passive Infrared (PIR)
 - Combination units
 - Leaky coaxial
 - Photo beams
 - Fence alarms



The Response

Depth of need:

- Response determines exactly what is to happen in the event of any trigger.
- Response is determined by:
 - Location
 - Time
 - Level of importance
 - Required information



Finally the Difference

- On Site Surveillance is the act of continuously watching
- Off Site Monitoring is the act of receiving specific video streams as based upon triggers, alarms, and/or predetermined events.



Final Thought:
Stay on Track, Test Everything!





Questions?
Answers?
Now is the
Time!

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